CASE REPORTS

Malignant Disease and Gastric Polyps

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THE RELATIONSHIP of gastric carcinoma to gastric polyps is, as yet, incompletely determined. The opportunity to observe gastric polyps both roentgenographically and gastroscopically in a 65-year-old man in whom cancer of the stomach was seen at operation six months later has prompted the present report and a general discussion of diagnostic problems in cases of this kind.

REPORT OF A CASE

The patient, a 65-year-old white male shipyard worker who had been observed periodically in the clinic for two and a half years, noted onset of epigastric distress and bloating immediately after eating in the fall of 1957. There was no loss of weight or of appetite. On occasion the patient noted pain that he described as cramp-like, which was relieved by eating. There were no specific food intolerances.

The patient had had lead poisoning in adolescence. He had worked in soft coal mines, both in drilling and blasting capacities, for many years before his shipyard work of the last ten years. Family history was sketchy, but so far as could be determined none of his relatives had had cancer. Multiple sigmoid diverticula had been diagnosed on a previous examination in the clinic. However, with the patient keeping to a bland diet and taking antispasmodics, no abnormal discomfort had been present until the present complaints.

Upon physical examination no abnormalities were noted. The results of laboratory tests were within normal limits, except for the absence of free hydrochloric acid with histamine.

Because of epigastric bloating and fullness, x-ray examinations of the upper gastrointestinal tract was carried out October 3, 1957 (Figures 1 and 2). A small esophageal hiatus hernia was observed. It was not associated with reflux esophagitis or peptic ulceration of the esophagus. A well demonstrated polypoid lesion involving the anterior wall of the body of the stomach, midway between the greater and lesser curvatures, could be seen. There were some associated thickened folds in the area. In some of the films the lesion appeared to be a pedunculated polyp (Figure 1). In others it had a sessile appearance. In the radiologist's interpretation, these observations, in association with thickened folds,

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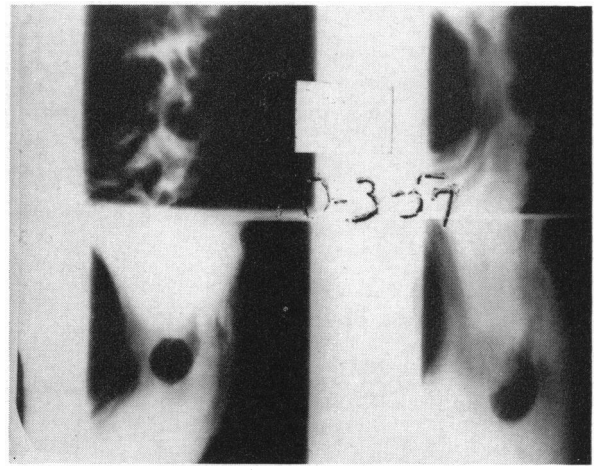

Figure 1.—Polygraphs, October 3, 1957, showing a polypoid, pedunculated lesion in the mid-body of the stomach. The suggested stalk is seen in the lower right hand corner film. Suggestive mucosal irregularity can also be seen.

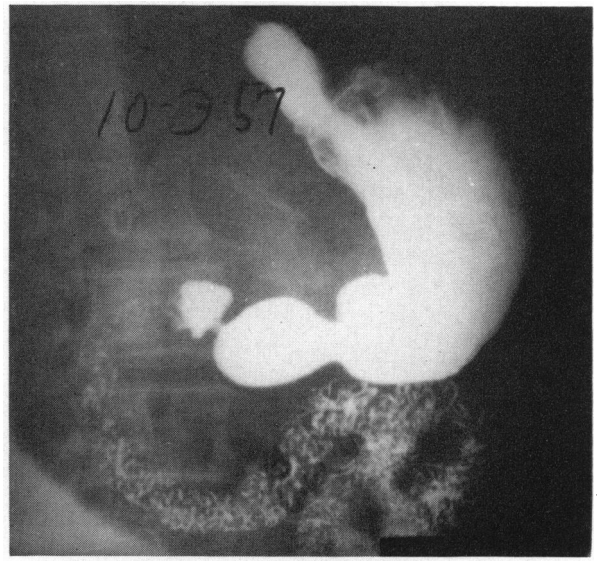

Figure 2.—Barium-filled stomach showing only minimal irregularity along the greater curvature in the area.

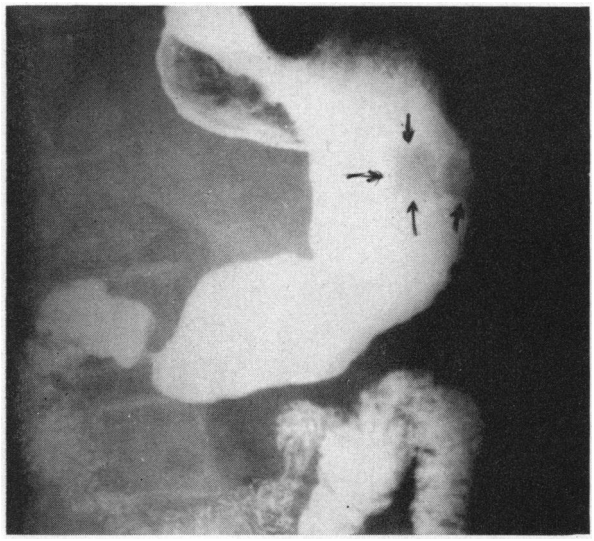

Figure 3.—Upper gastrointestinal series, June 11, 1958, showing distinct infiltration in the area in question.

raised the definite possibility of carcinoma or lymphoma. Hence, the patient was referred for gastroscopic examination. On November 22, 1957, a flexible Cameron gastroscope was readily passed. The angulus, clearly visualized, was somewhat enlarged and thickened. The antrum was seen clearly. Normal peristalsis was seen throughout. On the anterior wall above the angulus there was a slightly irregular lobulated polyp about 1.2 cm. in diameter. Whether it had a stalk or pedicle could not be seen owing to its size and proximity to the wall of the stomach. Two other smaller polyps were seen on the greater curvature in the area immediately above the angulus. There was diffuse atrophy in the body of the stomach on the anterior wall and lesser curvatures.

The impression was of atrophic gastritis and gastric polyps. No evidence of carcinoma was seen. Periodic x-ray and gastroscopic examination was advised. There was little change in clinical symptoms in the next six months and no loss of weight or of appetite. On routine radiographic study of the upper gastrointestinal tract in June, 1958, the radiologist made the following report: "At fluoroscopy, the esophagus appeared normal. . . . The previously described polypoid lesion . . . appeared to be larger than at the previous study. The mucosal pattern in the region appeared somewhat disrupted. The remainder of the stomach appeared to be within normal limits." The conclusion was that the large polypoid lesion was presumed to be carcinoma until proven otherwise (see Figures 3 to 6).

Operation was carried out June 30, 1958. On the lesser curvature of the stomach just above the incisura, there was an indurated area about 4 cm. in diameter which, on gross inspection, appeared to be a superficial spreading carcinoma. In the center of the lesion, a polypoid mass was present about 2 cm. in diameter on a pedicle 6 to 7 mm. in diameter. On the posterior surface of the stomach, along the

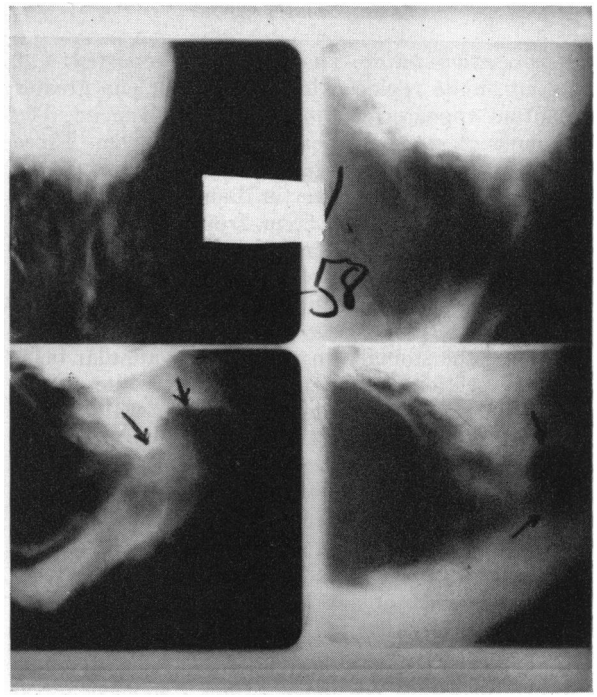

Figure 4.—Mucosal detail polygraphs showing definite alteration suggestive of malignant disease. The pedunculated character is no longer demonstrable.

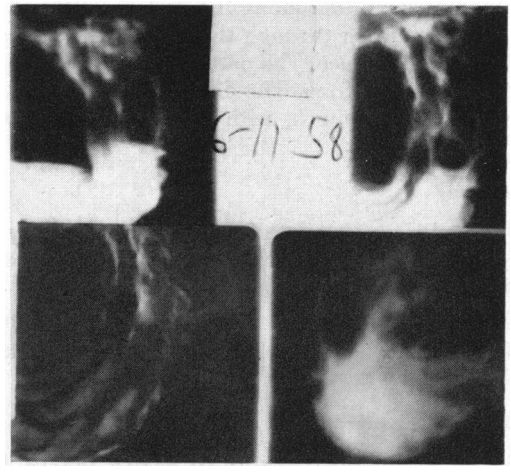

Figure 5.—Additional spot films of the mucosa in this area suggestive of polypoid malignant change.

greater curvature opposite the previously described lesion was another area of induration about 4 cm. in diameter which also grossly appeared to be a superficial spreading carcinoma (Figure 7). There were multiple nodes along the lesser curvature which appeared grossly to be metastatic. A node at the high lesser curvature at the esophageal hiatus was also removed for separate section.

There was no gross extension of the tumor or adherence to the transverse colon or the underlying pancreas. Approximately 85 per cent of the stomach was resected, and a Billroth I anastomosis was performed.

PATHOLOGIST'S REPORT

Gross examination. The pathologist reported: (1) A 1 cm. node replaced by tumor. (2) The greater omentum appeared free of tumor involvement. The specimen of stomach measured 17 x 10 cm. Three centimeters from one resected edge there was a tumor mass roughly 4 cm. in diameter and 1.5 cm. thick. At a distance of 3.5 cm. from it there was another tumor mass 4.5 cm. in diameter. This also resembled carcinoma on sectioning. It gave the appearance of a superficial spreading carcinoma beginning to produce a linitis plastica effect by encircling the stomach in a linear and annular fashion. On sectioning the tumor mass, white tumor could be seen infiltrating the muscle wall of the stomach almost to the serosal surface. Approximately a dozen small lymph nodes, the largest 1 cm. in diameter, were removed from the mesentery of the stomach. All appeared to be replaced by tumor. There was a suggestion of chronic antral gastritis with a cobblestone pattern on the mucosal surface. The tumor did not appear ulcerated.

Microscopic examination. Sections from the lymph node showed node replacement by well differentiated metastatic adenocarcinoma. Extensive antral gastritis with considerable intestinal metaplasia was noted in sections from the stomach wall. Specimens from the tumor revealed well differentiated adenocarcinoma, spreading along the surface of the stomach and spreading through the wall of the stomach to the serosal surface. The pattern was of a scirrhous carcinoma in one area. The diagnosis was adenocarcinoma of the stomach, with metastasis to regional lymph nodes.

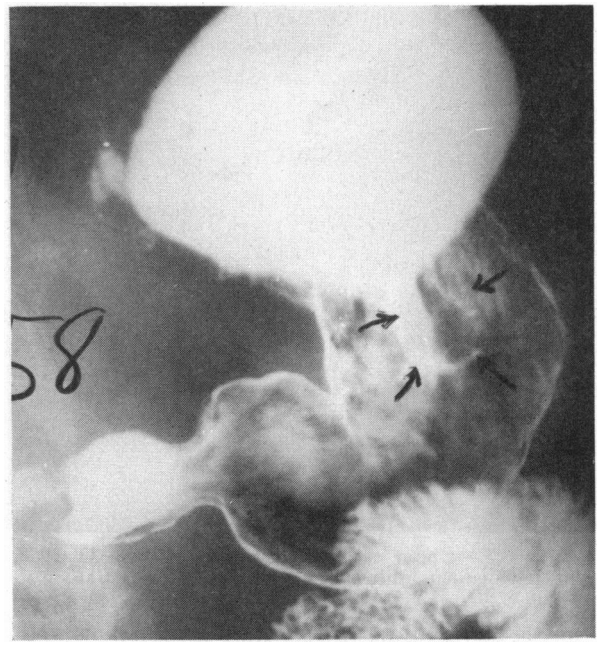

Figure 6.—Air-filled stomach demonstrating the polypoid character of the lesion on the posterior wall of the body.

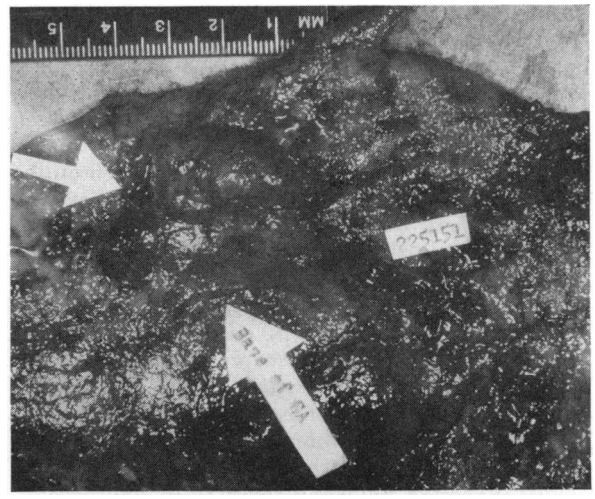

Figure 7.—Photograph of the resected specimen demonstrates the polypoid character of the malignant lesion.

Incidence

Buckstein[3] reported that in 21,026 autopsies in Bellevue Hospital from 1915 to 1938, 104 cases of benign tumors of the stomach were identified.

The general incidence varies from 0.25 per cent found by Spriggs and Marxer[9] in 4,400 autopsies to 0.7 per cent by Lawrence[6] in 7,000.

Malignant Degeneration

Buckstein[3] reported that of 31 gastric polyps, five had gross characteristics of benign lesions and that on microscopic section carcinomatous degeneration was evident.

Benedict and Allen[1] in 1934 reported on 17 gastric polyps examined at the Massachusetts General Hospital, seven of which showed some tendency to malignant change. Brunn and Pearl[2] in 1943 reemphasized the danger of malignant transformation in multiple polyposis of the stomach by reporting 84 cases, each with three or more polyps, in which 12 per cent were directly associated with carcinoma and 41 cases eventually developed malignant changes.

On the other hand, Carey and Hay[4] found no direct relationship between the development of carcinoma and benign gastric adenoma. They observed 20 patients with single benign adenomas for from one to nine years and ten patients with multiple benign adenomas for from one to seven years without development of carcinoma. Miller and co-workers[7] found malignant changes in eight of 23 gastric polyps. Rigler and Erickson[8] reported two cases in which a polyp was removed by local resection and cancer developed at the sites of resection, 18 months later in one case and 48 months later in the other.

Although the initial x-ray study in the case herein reported did show suggestion of a pedicle, the slight irregularity and thickening of the rugal folds around

the point of origin of the lesion made the radiologist suspect carcinoma or lymphoma initially.

The author can only reemphasize the importance of mucosal detail in the area surrounding the polyp. This irregularity, combined with fluoroscopic observation, served as the basis for a diagnosis of early malignant disease.

Gastroscopic Examination

The polyps in the present case were clearly visualized on gastroscopy. Nothing about their shape or gross appearance, including color, suggested malignant change. No ulceration or greyish discoloration was noted that might have suggested any but a benign process. They were so located and of such size that it was impossible to see whether there were pedicles at the point of attachment. Adjacent mucosal atrophy, normal peristalsis, and adequate distention have been noted by many observers in early lesions of this type.

SUMMARY

A case of a 65-year-old white man with minimal symptoms and identification of several gastric polyps is presented. On x-ray examination a pedicle was suspected, but the radiologist raised the suspicion of malignant disease on the basis of fluoroscopic "stiffness" and the radiologic mucosal irregularity in the area adjacent to the lesion. Gastroscopically, the polyp was identified and appeared benign by all usual criteria. In addition, several smaller polyps were seen in the area. Six months later, the radiologic picture was characteristic of malignant change athough there had been no change in symptoms. On exploration, metastasis to nodes, regional in nature, was already present. Pathologic section showed extensive chronic antral gastritis in conjunction with the adenocarcinoma (polypoid in type).

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Single Stage Resection of Seven Aneurysms

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NUMEROUS MEDICAL CENTERS are reporting many cases of resectional operation for arterial aneurysms. Relatively little has been presented, however, regarding operations on patients with multiple aneurysms, possibly because many patients who have multiple aneurysms are not candidates for elective operation. The following is a report of a patient having eleven aneurysms, in whom seven were resected in a single operation.

A 66-year-old Negro man was admitted to Loma Linda Hospital September 15, 1959, with a history of having first noted swelling in both femoral areas nearly six years previously. For the preceding three years these swellings had progressively increased in size. More recently the patient had noticed swelling in the left leg occurring when he sat and relieved when he stood or reclined. There had been no pain or tenderness, and the patient had been doing fairly active physical work until a few days before admission to the hospital.

The patient gave a history of having diabetes mellitus, controlled on low dosage of insulin. He knew of no heart trouble or hypertension. His father, he said, died at age 78 of hypertension.

The patient was 69½ inches in height and weighed 176 pounds. Pronounced arcus senilus was present. Blood pressure in the left arm was 130/100 mm. of mercury. A large pulsating mass was palpated in the lower abdomen, extending from just above the umbilicus downward across much of the right lower quadrant. The upper portion of this mass could be easily seen when the patient was in the supine position. Large femoral pulsating masses could be seen and felt, and a smaller pulsating mass could be palpated in the left popliteal fossa. Good posterior tibial and dorsalis pedis pulses were present bilaterally.

Radiographs of the abdomen showed a partially calcified mass, suggesting a rather large aneurysm in the region of the second and third lumbar vertebrae. Films of the chest showed tortuosity and some dilatation of the thoracic aorta, but no suggestion of actual aneurysm.

The hemoglobin content was 12.5 gm. per 100 cc. of blood, packed cell volume 39 per cent, nonprotein nitrogen 31 mg. per 100 cc. of serum, and blood volume 5,950 cc. Results of blood tests for syphilis were negative. The specific gravity of the urine was 1.016 and there were no casts or red blood cells.

The electrocardiogram was reported as an abnormal tracing interpreted as consistent with left ventricular hypertrophy.

At operation, with the arterial pressure, an electrocardiograph and an electroencephalograph continuously monitored, the abdomen was opened and a very large fusiform aneurysm of the terminal aorta was observed, beginning several centimeters distal

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